

Serial No.

RD-25,993-7

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Barry Lee-Mean Yang et al. : Group Art Unit:

Serial No. : Examiner:

Filed: : Paper No.: 1

For: MULTILAYER ARTICLE AND METHOD OF MAKING BY ARC
PLASMA DEPOSITION

PRELIMINARY AMENDMENT

Assistant Director of Patents and Trademarks

United States Patent and Trademark Office

Washington, DC 20231

Sir:

Please amend the Divisional Application, submitted herewith, of Application Serial No. 09/271,654, filed March 17, 1999, as follows.

If any additional fees for the accompanying response are required, Applicants request that this be considered a petition therefor. The Director is hereby authorized to charge any fees that may be required to Deposit Account 07-0868.

In the Specification:

On page 1, line 2, please insert the following:

--This is a division of Application Serial No. 09/271,654, filed March 17, 1999.--

In the Claims:

Please cancel Claims 1-3, 9-11, 13-16, 20-51 and 59-61, without prejudice.

Marked-up versions of amended Claims 4-7 and 57 are provided in Attachment A, submitted herewith.

Please substitute the following for pending Claim 4:

4. (Amended) A method of depositing a plurality of layers on an article, the method comprising steps of:

flowing a plasma gas in a plasma generation chamber in communication with a deposition chamber, the deposition chamber having a lower pressure than the plasma generation chamber, the article being disposed in the deposition chamber;

generating an arc in the plasma generation chamber to create a plasma, which flows into the deposition chamber;

injecting a first material comprising an organometallic material and a first oxidant into the plasma and reacting the first material to form an interlayer on the article, the interlayer comprising a polymerized organosilicon material; and

injecting a second material comprising an organosilicon material and a second oxidant into the plasma and reacting the second material to form a second layer comprising an inorganic ultraviolet absorbing material on the interlayer, the second material comprising a gaseous reagent, wherein the interlayer has a coefficient of thermal expansion that is between that of the substrate and the second layer.

Please substitute the following for pending Claim 5:

5. (Amended) The method of claim 4, wherein the first material or the second material comprises an evaporated elemental metal.

Please substitute the following for pending Claim 6:

6. (Amended) The method of claim 4, further comprising the step of injecting a third material into the plasma to form a third layer and reacting the third material to form a third layer comprising an abrasion resistant material on the second layer.

Please substitute the following for pending Claim 7:

7. (Amended) The method of claim 6, wherein the first material comprises a first organosilicon material, the second material comprises an evaporated elemental metal, and the third material comprises a third organosilicon material, and the method further comprises the step of injecting a third oxidant with the third material.

Please substitute the following for pending Claim 57:

57. (Amended) The method of claim 4, wherein the substrate comprises glass.

REMARKS

Applicants have submitted herewith a division of Serial No. 09/ Application Serial No. 09/271,654, filed March 17, 1999, and respectfully request that the accompanying Preliminary Amendment be entered. Claims 1-3, 9-11, 13-16, 20-51 and 59-61 have been canceled, without prejudice. As such, Claims 4-7, 12, 17-19, 52-58, and 62-73 remain in the case.

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The Examiner is invited to telephone the Applicants' counsel at the number provided below in order to resolve any outstanding issues concerning the present application.

Respectfully submitted,



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ATTACHMENT A

Marked-up versions of amended Claims 4-7 and 57 are provided below.

Marked-up version of Claim 4:

4. (Amended) A method of depositing a plurality of layers on an article, the method comprising steps of:

flowing a plasma gas in a plasma generation chamber in communication with a deposition chamber, the deposition chamber having a lower pressure than the plasma generation chamber, the article being disposed in the deposition chamber;

generating an arc in the plasma generation chamber to create a plasma, which flows into the deposition chamber;

injecting a first material comprising an organometallic material and a first oxidant into the plasma and reacting the first material to form an interlayer on the article, the interlayer comprising a polymerized organosilicon material; and

injecting a second material comprising an organosilicon material and a second oxidant into the plasma and reacting the second material to form a second layer comprising an inorganic ultraviolet absorbing material on the interlayer, the second material comprising a gaseous reagent, wherein the interlayer has a coefficient of thermal expansion that is between that of the substrate and the second layer [The method of claim 1, wherein the first material comprises an organometallic material, the second material comprises an organosilicon material, and the method further comprises the steps of:

injecting an oxidant with the first material; and

injecting an oxidant with the second material].

Marked-up version of Claim 5:

5. (Amended) The method of claim [1]4, wherein the first material or the second material comprises an evaporated elemental metal.

Marked-up version of Claim 6:

6. (Amended) The method of claim [1]4, further comprising the step of injecting a third material into the plasma to form a third layer and reacting the third material to form a third layer comprising an abrasion resistant material on the second layer.

Marked-up version of Claim 7:

7. (Amended) The method of claim 6, wherein the first material comprises [an] a first organosilicon material, the second material comprises an evaporated elemental metal, and the third material comprises [an] a third organosilicon material, and the method further comprises the [steps] step of

[injecting an oxidant with the second material; and]

injecting [an] a third oxidant with the third material.

Marked-up version of Claim 57:

57. (Amended) The method of claim [1]4, wherein the substrate comprises glass.